

## **REMARKS**

### **Overview**

Claims 1-59, 69 and 72 are currently under consideration in the present application. Note that previously withdrawn claims 60-68 are now cancelled. Claims 1, 54, and 69 have been amended. Claims 71-72 are new. The present response accompanies a request for continued examination and is an earnest effort to place all claims in proper form for allowance.

Reconsideration is respectfully requested.

### **Issues Under 35 U.S.C. § 102**

Claim 1 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U. S. Patent No. 5,580,697 to Keana et al. As previously explained, the Applicants' claimed invention provides chemical and spatial precision that is unachievable by Keana. For example, the Examiner recognizes that Keana "includes one step modification of a surface by providing reaction-energy to molecules on the surface of the substrate and a reactant that modifies the molecules to form a second functional group. The second functional group is receptive to other reagents." (Office Action, page 3, second full paragraph). The present invention, however, operates with more chemical and spatial precision. In claim 1, the present invention provides for "selectively reacting at least one of the internal bonds to form at least one second functional group." This increases the chemical precision available because the chemistry is not limited by reactants. The spatial precision is provided by selecting the particular internal bond or bonds in question. Chemical precision is then provided by being able to then later introduce a reactant through an additional reaction (i.e., see claim 2). Keana simply does not provide the precision of the claimed invention. Keana does not disclose the step of "reacting at least one internal bond to form at least one second functional group without any additional reactant." As further evidence

of the lack of spatial precision of Keana, Keana discusses patterns on the order of magnitude of micrometers (col. 3, lines 57-60), which would be orders of magnitude larger than the precision of the present invention.

To further clarify the key difference of the precision offered by the present invention, claim 1 has been amended to include the limitation of "having internal bonds capable of selective reaction upon exposure to electrons, ions, photon, or heat." In addition, the term "reacting" has been replaced with "selectively reacting." The Applicant believes that these changes make clear that the Applicant is using bond selective chemistry unlike Keana. The major advantage of this very different approach is that after the selective reaction, one is left with a stable product and not merely an intermediate such as found in Keana. This is a highly significant difference and is simply not disclosed in Keana. Note that the nitrenes are highly reactive intermediates that cannot be isolated under ordinary conditions (col. 5, lines 20-24).

Therefore, it is respectfully submitted that Keana simply does not disclose the Applicants' claimed invention and this rejection should be withdrawn.

The Examiner has also rejected claims 1, 54-59 and 69-70 under 35 U.S.C. § 102(b) as being anticipated by U. S. Patent No. 6,436,615 to Brandow et al. Brandow simply does not disclose the Applicants' claimed invention either. In particular, Brandow does not disclose "selectively reacting" at least one of the internal bonds to form a functional terminal group. In addition, claim 54 has been amended to explicitly include the term "stable." Therefore, these rejections based on Brandow should also be withdrawn.

#### **Issues Under 35 U.S.C. § 103**

Claims 2-53 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Brandow in view Keana and further in view of the non-patent publication of Nyffenegger and co-

worker. As previously expressed, neither Brandow nor Keana provide for the chemical and spatial precision of the Applicants' claimed invention and neither reference provides for "selectively reacting at least one of the internal bonds to form at least one second functional group." Therefore, neither reference provides for modification of the surface in the same manner as the Applicants' claimed invention, or can provide the same chemical and spatial precision. Nor does the Nyffenegger reference disclose this limitation. Therefore this rejection should be withdrawn.

### **New Claims**

Claims 71 and 72 are new. Claim 71 is similar in scope to claim 1 but uses alternative language, including the word "stable" to describe a product of the first reaction, which can then be subsequently reacted.

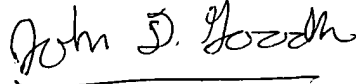
### **Conclusions**

Therefore, it is respectfully submitted that the claims are in proper form for allowance. Reconsideration and passage to issuance are respectfully requested.

This is a request under the provision of 37 CFR § 1.136(a) to extend the period for filing a response in the above-identified application for two months from August 27, 2003 to October 27, 2003. Applicant is a small entity; therefore, please charge Deposit Account number 26-0084

in the amount of \$210.00 for two months to cover the cost of the extension. Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084.

Respectfully submitted,



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